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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,272	11/08/2003	Robert P. Cazier	100111143-1	4903
22879 7590 12/17/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER LAM, HUNG H	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 12/17/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/705,272		CAZIER, ROBERT P.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Hung H. Lam		2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-7,9-13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9-13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/08/07 has been entered.

***Response to Amendment***

2. The amendments, filed on 11/08/07, have been entered and made of record. Claims 4,8 and 14 have been canceled. Claims 1-3,5-7,9-13 and 15-20 are pending.

In view of the Applicants amendment to the specification, the objection is hereby withdrawn.

***Response to Arguments***

3. Applicant's arguments, see remark page 10, filed 11/08/07, with respect to the rejection(s) of claim(s) 1-3,5-7,9-13 and 15-20 under Kawamura in view of Kudo, in view of Kincaid further in view of Nagao have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kosaka(US-6,281,925).

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3,5-7,9-13 and 15-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (U.S-6,931,138) in view of Kudo (US-6,919,925) in view of Kincaid (US- 7,072,477), in view of Nagao (U.S-6,573,909) and further in view of Kosaka (US-6,281,925).

Regarding **claim 1**, the Kawamura reference teaches a camera (video camera or digital camera) comprising processing circuitry (zoom control section 12) that comprises a control algorithm that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function, wherein the processing circuitry (zoom control section 12) simultaneously changes the gain while the images are being recorded of a subject to mimic actual human movement to and from the subject as the zoom level changes. Kawamura further discloses that the camera comprises an audio amplifier (19a-c) (See Fig. 1, Col. 6, Line 24- Col. 7, Line 10, and Col. 9, Lines 23-47).

What Kawamura fails to teach is the specifics of the camera features, primarily that the camera comprises a record button, an audio microphone; a lens, an image

sensor for receiving images viewed by the lens, and a speaker. Further, Kawamura does not disclose that the camera performs postview zooming, and that the processing circuitry creates betadata having a pointer to a file name of the recorded image, and during postview, alters the betadata to automatically increase the volume of associated audio as the image is cropped by automatically determining a scale of the gain of the audio amplifier using an original picture size as a reference.

However, noting the Kudo reference, Kudo teaches a camera (video camera 100) comprising a record button (trigger switch 205), an audio microphone (104); a lens (lens unit 101), an image sensor (CCD 102) for receiving images viewed by the lens, and a speaker (speaker unit 114) (See Figs. 1 and 2, and Col. 6, Line 54 - Col. 9, Line 5). Kudo also teaches that the camera has a postview (or playback) mode that presents the captured images on LCD display 208, wherein the images can be edited in the postview mode (See Col. 7, Lines 17-37).

As for the processing circuitry creating betadata to automatically alter the audio volume, the Kincaid reference teaches an electronic device that creates betadata (or metadata) having a pointer to a file name (track name) that corresponds to recorded audio (perceived acoustic power value stored in a database with an audio track), wherein the metadata is altered to automatically increase the volume of the audio (See Col. 4, Lines 1-17). Finally, considering the postview zooming wherein the volume of associated audio is increased as the image is cropped based on a scale using the original picture size as a reference, the Nagao reference teaches that during a postview zooming step (i.e. increasing the magnification of a captured image), the gain of the

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audio amplifier (amplifiers 58 and 59) is increased as the imaged is cropped (or magnified) using an original picture size (i.e. original resolution) as a reference, as is taught in Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20. It would have been obvious to one of ordinary skill in the art to have included the record button, lens, image sensor, and speaker of Kudo, the betadata that is altered to control the volume of the audio (as taught by Kincaid), and the volume control in a postview zooming mode (as taught by Nagao), with the camera and automated zoom control function of Kawamura. One would have been motivated to do so because a record button, lens and image sensor allow the user to capture a desired scene for a preferred duration, while the speaker allows the user to hear the captured audio upon playback, thereby enabling the user to immediately verify the content of the captured scene. Further, by creating and altering betadata (or metadata) corresponding to recorded audio, the alteration of the audio based upon the zoom level is permanently attached to the recorded images, thereby allowing playback from various devices, not just the image capturing device, to have adjusted sound output volume in relation to a zoom level. And finally, as Nagao teaches in Col. 1, Lines 29-67, it is advantageous to alter the volume of captured audio when postview cropping or zooming takes place, as changes made by the user to the image data (such as zooming) can also be reflected in the audio data, giving the user a more realistic sensory observation of the postview image.

However, Kawamura in view of Kudo, in view of Kincaid and further in view of Nagao fails to explicitly disclose wherein the processing circuitry keeps an audio

recording gain of the audio microphone at a same audio recording level while the zoom levels change during recording of the images.

In the same field of endeavor, Kosaka teaches a camera phone when the external microphone 12 and earphone 11 are in used for communication, the amplification gains of an amplifier in a voice processing unit 4 are held unchanged even if the operation mode is switched to voice and image communication mode by image button 13 (Col. 5, Ln. 15-27; Col. 6, Ln. 23-30). Thus the user can communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Col. 5, Ln. 24-27). In light of the teaching from Kosaka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kawamura, Kudo, Kincaid and Nagao to hold audio recording gain unchanged in voice and image communication mode. The modifications thus allow a user to communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Kosaka: Col. 5, Ln. 24-27).

Regard **claim 2**, the limitations of claim 1 are taught above, and the Nagao reference again teaches a digital zoom control wherein pixels of a recorded image are removed from the recorded image and the resultant image is scaled to its original size (i.e. the display system crops the next highest resolution image at the boundaries of the display window) to create the illusion of zoom capture, and wherein the control algorithm adjusts the gain of the audio amplifier (gain controller 53 adjusts the gain

of amplifiers 58 and 59) as a function of the digital zoom (Please refer to Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20).

Regarding **claim 3**, the limitations of claim 1 are taught above, and while Kawamura teaches a control algorithm that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23-47), the reference does not teach that the control algorithm, when viewing recorded images, creates metadata corresponding to recorded audio and alters the metadata to automatically increase the volume of the audio as apparent zoom is increased. However, as taught above with respect to claim 1, the Kincaid reference teaches an electronic device that creates metadata corresponding to recorded audio (perceived acoustic power value stored in a database with an audio track) and alters the metadata to automatically increase the volume of the audio (See Col. 4, Lines 1-17).

Regarding **claim 5**, Kawamura in view of Kudo, further in view of Kincaid, and still further in view of Nagao teaches the limitations of claim 1 above, and while Kudo does teach that the camera comprises a speaker (speaker unit 114) (See Figs. 1 and 2) for emitting recorded audio, and the Kawamura reference teaches that the control algorithm automatically adjusts the output audio gain (see Col. 9, Lines 23-47), neither



teaches that the camera has headphones coupled thereto, and that the control algorithm automatically adjusts headphone gain. However, referring to the Kincaid reference, Kincaid teaches an electronic device having headphones coupled thereto in addition to or in lieu of a speaker (See Col. 6, Lines 33-37).

Regarding **claim 6**, the Kawamura reference teaches a camera (video camera or digital camera) comprising processing circuitry (zoom control section 12) that comprises a control algorithm that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function. Kawamura further discloses that the camera comprises an audio amplifier (19a-c) (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23-47).

What Kawamura fails to teach is the specifics of the camera features, primarily that the camera comprises a record button, an audio microphone; a lens, a mechanical zoom control that moves certain optical elements of the lens to different physical positions, an image sensor for receiving images viewed by the lens, and a speaker. Further, Kawamura does not disclose that the camera performs postview zooming, and that the processing circuitry creates betadata having a pointer to a file name of the recorded image, and during postview, alters the betadata to automatically increase the volume of associated audio as the image is cropped by automatically determining a scale of the gain of the audio amplifier using an original picture size as a reference

However, noting the Kudo reference, Kudo teaches a camera (video camera 100) comprising a record button (trigger switch 205), an audio microphone (104); a lens (lens unit 101), a mechanical zoom control that moves certain optical elements (magnification varying lenses) of the lens to different physical positions, an image sensor (CCD 102) for receiving images viewed by the lens, and a speaker (speaker unit 114) (See Figs. 1 and 2, and Col. 6, Line 54 - Col. 9, Line 5). Kudo also teaches that the camera has a postview (or playback) mode that presents the captured images on LCD display 208, wherein the images can be edited in the postview mode (See Col. 7, Lines 17-37). As for the processing circuitry creating betadata to automatically alter the audio volume, the Kincaid reference teaches an electronic device that creates betadata (or metadata) having a pointer to a file name (track name) that corresponds to recorded audio (perceived acoustic power value stored in a database with an audio track), wherein the metadata is altered to automatically increase the volume of the audio (See Col. 4, Lines 1-17). Finally, considering the postview zooming wherein the volume of associated audio is increased as the image is cropped based on a scale using the original picture size as a reference, the Nagao reference teaches that during a postview zooming step (i.e. increasing the magnification of a captured image), the gain of the audio amplifier (amplifiers 58 and 59) is increased as the imaged is cropped (or magnified) using an original picture size (i.e. original resolution) as a reference, as is taught in Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20. It would have been obvious to one of ordinary skill in the art to have included the record button, lens, image sensor, and speaker of Kudo, the betadata that is altered to control the volume of the audio (as

taught by Kincaid), and the volume control in a postview zooming mode (as taught by Nagao), with the camera and automated zoom control function of Kawamura. One would have been motivated to do so because a record button, lens, mechanical zoom control, and image sensor allow the user to capture a desired scene for a preferred duration, while the speaker allows the user to hear the captured audio upon playback, thereby enabling the user to immediately verify the content of the captured scene. Further, by creating and altering betadata (or metadata) corresponding to recorded audio, the alteration of the audio based upon the zoom level is permanently attached to the recorded images, thereby allowing playback from various devices, not just the image capturing device, to have adjusted sound output volume in relation to a zoom level. And finally, as Nagao teaches in Col. 1, Lines 29-67, it is advantageous to alter the volume of captured audio when postview cropping or zooming takes place, as changes made by the user to the image data (such as zooming) can also be reflected in the audio data, giving the user a more realistic sensory observation of the postview image.

However, Kawamura in view of Kudo, in view of Kincaid and further in view of Nagao fails to explicitly disclose wherein the processing circuitry keeps an audio recording gain of the audio microphone at a same audio recording level while the zoom levels change during recording of the images.

In the same field of endeavor, Kosaka teaches a camera phone when the external microphone 12 and earphone 11 are in used for communication, the amplification gains of an amplifier in a voice processing unit 4 are held unchanged even

if the operation mode is switched to voice and image communication mode by image button 13 (Col. 5, Ln. 15-27; Col. 6, Ln. 23-30). Thus the user can communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Col. 5, Ln. 24-27). In light of the teaching from Kosaka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kawamura, Kudo, Kincaid and Nagao to hold audio recording gain unchanged in voice and image communication mode. The modifications thus allow a user to communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Kosaka: Col. 5, Ln. 24-27).

Regarding **claim 7**, the limitations of claim 6 are taught above, and while Kawamura teaches a control algorithm that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23-47), the reference does not teach that the control algorithm, when viewing recorded images, creates metadata corresponding to recorded audio and alters the metadata to automatically increase the volume of the audio as apparent zoom is increased. However, as taught above with respect to claim 1, the Kincaid reference teaches an electronic device that creates metadata corresponding to recorded audio

(perceived acoustic power value stored in a database with an audio track) and alters the metadata to automatically increase the volume of the audio (See Col. 4, Lines 1-17). As for claim 8, the limitations of claim 6 are taught above, and the Kawamura reference teaches that the recording gain remains the same during recording (via pickup section 11), and the gain of the audio amplifier, and hence the audio output volume of a speaker (via volume control section 15) is increased during playback in an amount related to the zoom level (from zoom control section 12, as is taught in Col. 91 Lines 23-47).

Regarding **claim 9**, again the limitations of claim 6 are set forth above, and while Kudo does teach that the camera comprises a speaker (speaker unit 114) (See Figs. 1 and 2) for emitting recorded audio, and the Kawamura reference teaches that the control algorithm automatically adjusts the output audio gain (see Col. 9, Lines 23-47), neither teaches that the camera has headphones coupled thereto, and that the control algorithm automatically adjusts headphone gain. However, referring to the Kincaid reference, Kincaid teaches an electronic device having headphones coupled thereto in addition to or in lieu of a speaker (See Col. 6, Lines 33-37).

Regarding **claim 10**, the Kawamura reference teaches a method wherein a camera (video camera or digital camera) configured to have processing circuitry (zoom control section 12) that comprises a control algorithm that implements an automated zoom control function that automatically records a plurality of images having different

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zoom levels while recording and adjusting the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function. Kawamura further discloses that the camera comprises an audio amplifier (19a-c) (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23- 47).

What Kawamura fails to teach is the specifics of the camera features, primarily that the camera comprises a record button, an audio microphone; a lens, an image sensor for receiving images viewed by the lens, and a speaker. Further, Kawamura does not disclose that the camera performs postview zooming, and that the processing circuitry creates betadata having a pointer to a file name of the recorded image, and during postview, alters the betadata to automatically increase the volume of associated audio as the image is cropped by automatically determining a scale of the gain of the audio amplifier using an original picture size as a reference.

However, noting the Kudo reference, Kudo teaches a camera (video camera 100) comprising a record button (trigger switch 205), audio microphone (104); a lens (lens unit 101), a mechanical zoom control that moves certain optical elements (magnification varying lenses) of the lens to different physical positions, an image sensor (CCD 102) for receiving images viewed by the lens, and a speaker (speaker unit 114) (See Figs. 1 and 2, and Col. 6, Line 54 - Col. 9, Line 5). Kudo also teaches that the camera has a postview (or playback) mode that presents the captured images on LCD display 208, wherein the images can be edited in the postview mode (See Col. 7, Lines 17-37). As for the processing circuitry creating betadata to automatically alter the audio

volume, the Kincaid reference teaches an electronic device that creates betadata (or metadata) having a pointer to a file name (track name) that corresponds to recorded audio (perceived acoustic power value stored in a database with an audio track), wherein the metadata is altered to automatically increase the volume of the audio (See Col. 4, Lines 1-17). Finally, considering the postview zooming wherein the volume of associated audio is increased as the image is cropped based on a scale using the original picture size as a reference, the Nagao reference teaches that during a postview zooming step (i.e. increasing the magnification of a captured image), the gain of the audio amplifier (amplifiers 58 and 59) is increased as the imaged is cropped (or magnified) using an original picture size (i.e. original resolution) as a reference, as is taught in Fig. 2 and Col. 4, Line 28 - C01.5, Line 20. It would have been obvious to one of ordinary skill in the art to have included the record button, lens, image sensor, and speaker of Kudo, the betadata that is altered to control the volume of the audio (as taught by Kincaid), and the volume control in a postview zooming mode (as taught by Nagao), with the camera and automated zoom control function of Kawamura. One would have been motivated to do so because a record button, lens, mechanical zoom control, and image sensor allow the user to capture a desired scene for a preferred duration, while the speaker allows the user to hear the captured audio upon playback, thereby enabling the user to immediately verify the content of the captured scene. Further, by creating and altering betadata (or metadata) corresponding to recorded audio, the alteration of the audio based upon the zoom level is permanently attached to the recorded images, thereby allowing playback from various devices, not just the

image capturing device, to have adjusted sound output volume in relation to a zoom level. And finally, as Nagao teaches in Col. 1, Lines 29-67, it is advantageous to alter the volume of captured audio when postview cropping or zooming takes place, as changes made by the user to the image data (such as zooming) can also be reflected in the audio data, giving the user a more realistic sensory observation of the postview image.

However, Kawamura in view of Kudo, in view of Kincaid and further in view of Nagao fails to explicitly disclose keeping an audio recording gain of the audio microphone at a same audio recording level while the zoom levels change during recording of the images.

In the same field of endeavor, Kosaka teaches a camera phone when the external microphone 12 and earphone 11 are in used for communication, the amplification gains of an amplifier in a voice processing unit 4 are held unchanged even if the operation mode is switched to voice and image communication mode by image button 13 (Col. 5, Ln. 15-27; Col. 6, Ln. 23-30). Thus the user can communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Col. 5, Ln. 24-27). In light of the teaching from Kosaka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kawamura, Kudo, Kincaid and Nagao to hold audio recording gain unchanged in voice and image communication mode. The modifications thus allow a user to communicate with the opponent user



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while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Kosaka: Col. 5, Ln. 24-27).

Regarding **claim 11**, the limitations of claim 10 are taught above, and the Nagao reference again teaches a digital zoom method wherein pixels of a recorded image are removed from the recorded image and the resultant image is scaled to its original size (i.e. the display system crops the next highest resolution image at the boundaries of the display window) to create the illusion of zoom capture, and further wherein the control algorithm adjusts the gain of the audio amplifier (gain controller 53 adjusts the gain of amplifiers 58 and 59) as a function of the digital zoom (Please refer to Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20).

Regarding **claim 12**, again the limitations of claim 10 are taught above, and the Kudo reference further discloses that the camera automatically records a plurality of images to capture a series of very closely related images having different zoom levels, as is shown in Col. 6, Line 54 - Col. 9, Line 5.

Regarding **claim 13**, the limitations of claim 10 are set forth above, and while Kawamura teaches a control algorithm that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level

recorded by the zoom control function (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23-47), the reference does not teach that the control algorithm, when viewing recorded images, creates metadata corresponding to recorded audio and alters the metadata to automatically increase the volume of the audio as apparent zoom is increased. However, as taught above with respect to claim 10, the Kincaid reference teaches an electronic device that creates metadata corresponding to recorded audio (perceived acoustic power value stored in a database with an audio track) and alters the metadata to automatically increase the volume of the audio (See Col. 4, Lines 1-17).

Regarding **claim 15**, the Kawamura reference teaches a method wherein a camera (video camera or digital camera) configured to have processing circuitry (zoom control section 12) that comprises a control algorithm that implements an automated zoom control function that automatically records a plurality of images having different zoom levels while recording and adjusting the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function. Kawamura further discloses that the camera comprises an audio amplifier (19a-c) (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23-47).

What Kawamura fails to teach is the specifics of the camera features, primarily that the camera comprises a record button, a lens, an audio microphone; an image sensor for receiving images viewed by the lens, and a speaker. Further, Kawamura does not disclose that the camera performs postview zooming, and that the processing

circuitry creates betadata having a pointer to a file name of the recorded image, and during postview, alters the betadata to automatically increase the volume of associated audio as the image is cropped by automatically determining a scale of the gain of the audio amplifier using an original picture size as a reference.

However, noting the Kudo reference, Kudo teaches a camera (video camera 100) comprising a record button (trigger switch 205), an audio microphone (104); a lens (lens unit 101), a mechanical zoom control that moves certain optical elements (magnification varying lenses) of the lens to different physical positions, an image sensor (CCD 102) for receiving images viewed by the lens, and a speaker (speaker unit 114) (See Figs. 1 and 2, and Col. 6, Line 54 - Col. 9, Line 5). Kudo also teaches that the camera has a postview (or layback) mode that presents the captured images on LCD display 208, wherein the images can be edited in the postview mode (See Col. 7, Lines 17-37). As for the processing circuitry creating betadata to automatically alter the audio volume, the Kincaid reference teaches an electronic device that creates betadata (or metadata) having a pointer to a file name (track name) that corresponds to recorded audio (perceived acoustic power value stored in a database with an audio track), wherein the metadata is altered to automatically increase the volume of the audio (See Col. 4, Lines 1-17). Finally, considering the postview zooming wherein the volume of associated audio is increased as the image is cropped based on a scale using the original picture size as a reference, the Nagao reference teaches that during a postview zooming step (i.e. increasing the magnification of a captured image), the gain of the audio amplifier (amplifiers 58 and 59) is increased as the imaged is cropped (or

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magnified) using an original picture size (i.e. original resolution) as a reference, as is taught in Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20. It would have been obvious to one of ordinary skill in the art to have included the record button, lens, image sensor, and speaker of Kudo, the betadata that is altered to control the volume of the audio (as taught by Kincaid), and the volume control in a postview zooming mode (as taught by Nagao), with the camera and automated zoom control function of Kawamura. One would have been motivated to do so because a record button, lens, mechanical zoom control, and image sensor allow the user to capture a desired scene for a preferred duration, while the speaker allows the user to hear the captured audio upon playback, thereby enabling the user to immediately verify the content of the captured scene. Further, by creating and altering betadata (or metadata) corresponding to recorded audio, the alteration of the audio based upon the zoom level is permanently attached to the recorded images, thereby allowing playback from various devices, not just the image capturing device, to have adjusted sound output volume in relation to a zoom level. And finally, as Nagao teaches in Col. 1, Lines 29-67, it is advantageous to alter the volume of captured audio when postview cropping or zooming takes place, as changes made by the user to the image data (such as zooming) can also be reflected in the audio data, giving the user a more realistic sensory observation of the postview image.

However, Kawamura in view of Kudo, in view of Kincaid and further in view of Nagao fails to explicitly disclose keeping an audio recording gain of the audio

microphone at a same audio recording level while the zoom levels change during recording of the images.

In the same field of endeavor, Kosaka teaches a camera phone when the external microphone 12 and earphone 11 are in used for communication, the amplification gains of an amplifier in a voice processing unit 4 are held unchanged even if the operation mode is switched to voice and image communication mode by image button 13 (Col. 5, Ln. 15-27; Col. 6, Ln. 23-30). Thus the user can communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Col. 5, Ln. 24-27). In light of the teaching from Kosaka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kawamura, Kudo, Kincaid and Nagao to hold audio recording gain unchanged in voice and image communication mode. The modifications thus allow a user to communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Kosaka: Col. 5, Ln. 24-27).

Regarding **claim 16**, the limitations of claim 15 are set forth above, and while Kawamura teaches a control algorithm that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and

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Col. 9, Lines 23-47), the reference does not teach that the control algorithm, when viewing recorded images, creates metadata corresponding to recorded audio and alters the metadata to automatically increase the volume of the audio as apparent zoom is increased. However, as taught above with respect to claim 15, the Kincaid reference teaches an electronic device that creates metadata corresponding to recorded audio (perceived acoustic power value stored in a database with an audio track) and alters the metadata to automatically increase the volume of the audio (See Col. 4, Lines 1-17).

Regarding **claim 17**, the method of claim 15 is taught above, and the Kawamura reference also discloses that the method comprises keeping the gain the same during recording (via pickup section 11), and adjusting the gain of the audio amplifier, and hence the audio output volume of a speaker (via volume control section 15) during playback in an amount related to the zoom level (from zoom control section 12), as is taught in Col. 9, Lines 23-47.

Regarding **claim 18**, the Kawamura reference teaches a camera (video camera or digital camera) comprising processing means (zoom control section 12) that implements an automated zoom control function that automatically records images having different zoom levels while recording, and which, upon playback, adjusts the gain of an audio amplifier (via volume control section 15) to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control function.

Kawamura further discloses that the camera comprises an audio apparatus (amplifier 19a-c) (See Fig. 1, Col. 6, Line 24 - Col. 7, Line 10, and Col. 9, Lines 23-47).

What Kawamura fails to teach is the specifics of the camera features, primarily that the camera comprises a record button, an audio microphone; a lens, an image sensor for receiving images viewed by the lens, and a speaker. Further, Kawamura does not disclose that the camera performs postview zooming, and that the processing circuitry creates betadata having a pointer to a file name of the recorded image, and during postview, alters the betadata to automatically increase the volume of associated audio as the image is cropped by automatically determining a scale of the gain of the audio amplifier using an original picture size as a reference.

However, noting the Kudo reference, Kudo teaches a camera (video camera 100) comprising a record button (trigger switch 205), an audio microphone (104); a lens (lens unit 101), an image sensor (CCD 102) for receiving images viewed by the lens, and a speaker (speaker unit 114) (See Figs. 1 and 2, and Col. 6, Line 54 - Col. 9, Line 5). Kudo also teaches that the camera has a postview (or playback) mode that presents the captured images on LCD display 208, wherein the images can be edited in the postview mode (See Col. 7, Lines 17-37). As for the processing circuitry creating betadata to automatically alter the audio volume, the Kincaid reference teaches an electronic device that creates betadata (or metadata) having a pointer to a file name (track name) that corresponds to recorded audio (perceived acoustic power value stored in a database with an audio track), wherein the metadata is altered to automatically increase the volume of the audio (See Col. 4, Lines 1-17). Finally,

considering the postview zooming wherein the volume of associated audio is increased as the image is cropped based on a scale using the original picture size as a reference, the Nagao reference teaches that during a postview zooming step (i.e. increasing the magnification of a captured image), the gain of the audio amplifier (amplifiers 58 and 59) is increased as the imaged is cropped (or magnified) using an original picture size (i.e. original resolution) as a reference, as is taught in Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20. It would have been obvious to one of ordinary skill in the art to have included the record button, lens, image sensor, and speaker of Kudo, the betadata that is altered to control the volume of the audio (as taught by Kincaid), and the volume control in a postview zooming mode (as taught by Nagao), with the camera and automated zoom control function of Kawamura. One would have been motivated to do so because a record button, lens and image sensor allow the user to capture a desired scene for a preferred duration, while the speaker allows the user to hear the captured audio upon playback, thereby enabling the user to immediately verify the content of the captured scene. Further, by creating and altering betadata (or metadata) corresponding to recorded audio, the alteration of the audio based upon the zoom level is permanently attached to the recorded images, thereby allowing playback from various devices, not just the image capturing device, to have adjusted sound output volume in relation to a zoom level. And finally, as Nagao teaches in Col. 1, Lines 29-67, it is advantageous to alter the volume of captured audio when postview cropping or zooming takes place, as changes made by the user to the image data (such as zooming) can also be reflected in



the audio data, giving the user a more realistic sensory observation of the postview image.

However, Kawamura in view of Kudo, in view of Kincaid and further in view of Nagao fails to explicitly disclose wherein the processing circuitry keeps an audio recording gain of the audio microphone at a same audio recording level while the zoom levels change during recording of the images.

In the same field of endeavor, Kosaka teaches a camera phone when the external microphone 12 and earphone 11 are in used for communication, the amplification gains of an amplifier in a voice processing unit 4 are held unchanged even if the operation mode is switched to voice and image communication mode by image button 13 (Col. 5, Ln. 15-27; Col. 6, Ln. 23-30). Thus the user can communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Col. 5, Ln. 24-27). In light of the teaching from Kosaka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kawamura, Kudo, Kincaid and Nagao to hold audio recording gain unchanged in voice and image communication mode. The modifications thus allow a user to communicate with the opponent user while watching the image of the opponent user on the display 8 and without disturbing other people around the user (Kosaka: Col. 5, Ln. 24-27).

Regarding **claim 19**, the limitations of claim 18 are taught above, and while Kawamura teaches a processing means (zoom control section 12) that adjusts the gain

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of the audio apparatus as a function of zoom position (See Col. 9, Lines 23-47), Kawamura fails to teach that the processing means specifically comprises a mechanical zoom control that moves certain optical elements in the lens to different physical positions. However, the Kudo reference teaches a mechanical zoom lens (lens unit 101) in which certain optical elements (magnification varying lenses) are moved to different physical positions, as taught in Col. 8, Lines 1,10.

Regarding **claim 20**, the limitations of claim 18 are taught above, and the Nagao reference again teaches a digital zoom control wherein pixels of a recorded image are removed from the recorded image and the resultant image is scaled to its original size (i.e. the display system crops the next highest resolution image at the boundaries of the display window) to create the illusion of zoom capture, and wherein the control algorithm adjusts the gain of the audio amplifier (gain controller 53 adjusts the gain of amplifiers 58 and 59) as a function of the digital zoom (Please refer to Fig. 2 and Col. 4, Line 28 - Col. 5, Line 20).

### ***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung H. Lam whose telephone number is 571-272-7367. The examiner can normally be reached on Monday - Friday 8AM - 5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LIN YE can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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